

What is claimed is:

1. A system for controlling the transmission of information between a host computer and a remotely located client computer, the system comprising:

a client computer which includes a browser application for viewing Web pages and is linked to a server computer by a network;

a host computer which is linked to the server computer by a communication medium;

the server computer comprising:

a send/receive module receiving data that is transmitted from the host computer, the data representative of a host computer display screen having a function key-capable field that represents an incomplete list of items included in the host computer display screen;

a parsing module, upon receipt of the data transmitted from the host computer by the server computer, parsing the data to locate the function key-capable field;

a creation module creating, at the server computer, at least one instruction corresponding to the function key-capable field that when received by the Web browser causes a control and an incomplete list of items to be created and displayed in a Web page that represents the host computer display screen, the control being selectable to cause a complete list of items to be displayed in the Web page,

the send/receive module transmitting the instruction to the client computer, receiving a command from the client computer with the command indicative of a user selection of the selectable control, sending a request for a complete list of items to the host computer, and receiving, at the server computer, additional data including information pertaining to the complete list of items from the host computer;

the creation module displaying the additional data on a Web page that represents the host computer display screen; and

the send/receive module transmitting, from the server computer to the client computer, additional instructions that cause the Web browser to produce a second Web page containing the complete list of items from the host computer.

FOIA b 7 - DATED 10/22/2001

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2. The system of claim 1, wherein the first set of instructions and the second set of instructions comprise statements in the Hypertext Markup Language.

3. The system of claim 1, wherein the predetermined function key is an F4 function key.

4. The system of claim 1, wherein the host computer is an IBM AS/400 computer.

5. The system of claim 1, wherein the host computer is an IBM mainframe computer.

6. The system of claim 1, wherein the selectable control is a button.

7. The system of claim 1, wherein the parsing module further comprises:

a field parsing module determining whether a character string comprising three consecutive periods exists in a field of the data; determining whether a character string comprising four consecutive periods exists in the field of the data; determining whether a character string comprising an apostrophe immediately followed by three consecutive periods exists in the field of the data; if the character string comprising four consecutive periods exists in the field, determining that the field of the data is not a function key-capable field; if the character string comprising an apostrophe immediately followed by three consecutive periods exists in the field, determining that the field of the data is not a function key-capable field; and if the character string comprising three consecutive periods exists in the field and the character string comprising four consecutive periods does not exist in the field and the character string comprising an apostrophe immediately followed by three consecutive periods does not exist in the field, determining that the field is a function key-capable field.

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8. The system of claim 7, further comprising:
the field parsing module determining whether a previous field immediately prior to the field of data is an entry field; and if the previous field is not an entry field, determining that the field of data is not an entry field.
9. The system of claim 1, wherein the network linking the client computer and the server computer is the Internet.
10. The system of claim 1, wherein the network linking the client computer and the server computer is a Local Area Network.
11. A system for controlling the transmission of information between a host computer and a remotely located client computer, the system comprising:
a client computer which includes a browser application and is linked to a server computer by a network;
a host computer which is linked to the server computer by a communications medium;
the server computer comprising:
an intermediary module receiving data transmitted from the host computer, the data representative of a host computer display screen; and
a server application framework determining whether an instruction template corresponding to the host computer screen exists; if the instruction template corresponding to the host computer screen exists, transmitting the instruction template to the client computer; and if the instruction template corresponding to the host computer screen does not exist, creating a set of instructions having a portion of the data that is transmitted from the host computer and received by the server computer and transmitting the set of instructions to the client computer.
12. The system of claim 11, wherein the instruction template includes a pull data field that specifies information desired from the host computer, further comprising:
the server application framework locating the pull data field; retrieving the information desired from the host computer; and inserting the information desired from the host computer into the instruction template.
13. The system of claim 12, wherein the insertion of the information into the instruction template is performed prior to the transmitting the instruction template to the client computer.
14. The system of claim 11, further comprising:
the server application framework determining whether the client computer is operating in a low-bandwidth mode; if the client computer is operating in a low-bandwidth mode and a low-bandwidth instruction template corresponding to the host computer screen exists, transmitting the low-bandwidth instruction template to the client computer; and if the client computer is not operating in a low-bandwidth mode a high-bandwidth instruction template corresponding to the host computer screen exists, transmitting the high-bandwidth instruction template to the client computer, wherein the low-bandwidth instruction template is different from the high-bandwidth instruction template.
15. The system of claim 11, wherein a plurality of instruction templates exist, each template having an associated screen identifier, further comprising:
the server application framework further comprising determining a host screen identifier corresponding to the host computer screen; and wherein the determining whether an instruction template corresponding to the host computer screen exists includes determining whether an instruction template having an associated screen identifier that matches the host screen identifier exists.

16. The system of claim 15, wherein the determining whether an instruction template corresponding to the host computer screen exists includes:

- if an instruction template corresponding to the host computer does not exist, determining whether an alternate instruction template having an associated screen identifier that matches the host screen identifier exists, wherein the alternate instruction template corresponds to a computer screen of a second host computer; and
- if the alternate instruction template exists, transmitting the alternate instruction template to the client computer.

17. A system for controlling the transmission of information between a host computer and a remotely located client computer, wherein the, and the, the system comprising:

- a client computer which includes a browser application and is linked to a server computer by a network;

- a host computer which is linked to the server computer by a communications medium;

- the server computer comprising:

- a display control receiving, at the server computer, data that is transmitted from the host computer, the data representative of a host computer display screen; and

- a host extension determining whether the data transmitted from the host computer includes at least one menu item field; if the data transmitted from the host computer includes at least one menu item field, creating at least one instruction that represents a hyperlink field corresponding to the menu item field; determining whether the data transmitted from the host computer includes at least one function key field; if the data transmitted from the host computer includes at least one function key-capable field, creating at least one instruction that represents a hyperlink field corresponding to the function key field; determining whether the data transmitted from the host computer includes at least one light pen-enabled field; if the data transmitted from the host computer includes at least one light pen-enabled field, creating at least one instruction that represents a hyperlink field corresponding to the light pen-enabled fields; determining whether the data transmitted from the host computer includes at least one function key-capable field; and if the data transmitted from the host computer includes at least one function key-capable field, creating at least one instruction that represents a button control corresponding to the function key-capable field.

18. A system for controlling the transmission of information between a host computer and a remotely located client computer, the system comprising:

- a client computer which includes a browser application and is linked to a server computer by a network;

- a host computer which is linked to the server computer by a communication medium;

- the server computer comprising:

- a display control receiving, at the server computer, data that is transmitted from the host computer, the data representative of a host computer display screen having multiple fields and a cursor positioned in a focus field; and

- a host extension automatically creating a set of instructions representing web page fields corresponding to the fields of the host screen; determining that one of the web page fields is a cursor field corresponding to the focus field of the host screen; automatically creating at least one cursor positioning instruction in the set of instructions, the cursor positioning instruction representing the information that a cursor is to be positioned within the cursor field; and transmitting the set of instructions to the client computer.

19. The system of claim 18, wherein the communication medium linking the host computer to the server computer is an SNA network and the data received from the host computer comprises a data stream including an insert cursor token indicative of the focus field.

20. The system of claim 19, wherein the set of instructions includes instructions in the Hypertext Markup Language.

21. A computer-readable storage medium storing code for controlling the transmission of information between a host computer and a remotely located client computer, the system comprising:

- a client computer which includes a browser application for viewing Web pages and is linked to a server computer by a network;

- a host computer which is linked to the server computer by a communication medium;

- the server computer comprising:

- a send/receive module receiving data that is transmitted from the host computer, the data representative of a host computer display screen having a function key-capable field that represents an incomplete list of items included in the host computer display screen;
 - a parsing module, upon receipt of the data transmitted from the host computer by the server computer, parsing the data to locate the function key-capable field;

- a creation module creating, at the server computer, at least one instruction corresponding to the function key-capable field that when received by the Web browser causes a control and an incomplete list of items to be created and displayed in a Web page that represents the host computer display screen, the control being selectable to cause a complete list of items to be displayed in the Web page,

- the send/receive module transmitting the instruction to the client computer, receiving a command from the client computer with the command indicative of a user selection of the selectable control, sending a request for a complete list of items to the host computer, and receiving, at the server computer, additional data including information pertaining to the complete list of items from the host computer;

- the creation module displaying the additional data on a Web page that represents the host computer display screen; and

- the send/receive module transmitting, from the server computer to the client computer, additional instructions that cause the Web browser to produce a second Web page containing the complete list of items from the host computer.

22. The storage medium of claim 1, wherein the first set of instructions and the second set of instructions comprise statements in the Hypertext Markup Language.

23. The storage medium of claim 1, wherein the predetermined function key is an F4 function key.

24. The storage medium of claim 1, wherein the host computer is an IBM AS/400 computer.

25. The storage medium of claim 1, wherein the host computer is an IBM mainframe computer.

26. The storage medium of claim 1, wherein the selectable control is a button.

27. The storage medium of claim 1, wherein the parsing module further comprises:

- a field parsing module determining whether a character string comprising three consecutive periods exists in a field of the data; determining whether a character string comprising four consecutive periods exists in the field of the data; determining whether a character string comprising an apostrophe immediately followed by three consecutive periods exists in the field of the data; if the character string comprising four consecutive periods exists in the field, determining that the field of the data is not a function key-capable field; if the character string comprising an apostrophe immediately followed by three consecutive periods exists in the field, determining that the field of the data is not a function key-capable field; and if the character string comprising three consecutive periods exists in the field and the character string comprising four consecutive periods does not exist in the field and the character string comprising an apostrophe immediately followed by three consecutive periods does not exist in the field, determining that the field is a function key-capable field.

28. The storage medium of claim 7, further comprising: the field parsing module determining whether a previous field immediately prior to the field of data is an entry field; and if the previous field is not an entry field, determining that the field of data is not an entry field.

29. The storage medium of claim 1, wherein the network linking the client computer and the server computer is the Internet.

30. The storage medium of claim 1, wherein the network linking the client computer and the server computer is a Local Area Network.

31. A computer-readable storage medium storing code for controlling the transmission of information between a host computer and a remotely located client computer, the system comprising:

- a client computer which includes a browser application and is linked to a server computer by a network;

- a host computer which is linked to the server computer by a communications medium;

- the server computer comprising:

- an intermediary module receiving data transmitted from the host computer, the data representative of a host computer display screen; and

- a server application framework determining whether an instruction template corresponding to the host computer screen exists; if the instruction template corresponding to the host computer screen exists, transmitting the instruction template to the client computer; and if the instruction template corresponding to the host computer screen does not exist, creating a set of instructions having a portion of the data that is transmitted from the host computer and received by the server computer and transmitting the set of instructions to the client computer.

32. The storage medium of claim 11, wherein the instruction template includes a pull data field that specifies information desired from the host computer, further comprising:

- the server application framework locating the pull data field; retrieving the information desired from the host computer; and inserting the information desired from the host computer into the instruction template.

33. The storage medium of claim 12, wherein the insertion of the information into the instruction template is performed prior to the transmitting the instruction template to the client computer.

34. The storage medium of claim 11, further comprising: the server application framework determining whether the client computer is operating in a low-bandwidth mode; if the client computer is operating in a low-bandwidth mode and a low-bandwidth instruction template corresponding to the host computer screen exists, transmitting the low-bandwidth instruction template to the client computer; and if the client computer is not operating in a low-bandwidth mode a high-bandwidth instruction template corresponding to the host computer screen exists, transmitting the high-bandwidth instruction template to the client computer, wherein the low-bandwidth instruction template is different from the high-bandwidth instruction template.

35. The storage medium of claim 11, wherein a plurality of instruction templates exist, each template having an associated screen identifier, further comprising:

the server application framework further comprising determining a host screen identifier corresponding to the host computer screen; and wherein the determining whether an instruction template corresponding to the host computer screen exists includes determining whether an instruction template having an associated screen identifier that matches the host screen identifier exists.

36. The storage medium of claim 15, wherein the determining whether an instruction template corresponding to the host computer screen exists includes:

if an instruction template corresponding to the host computer does not exist, determining whether an alternate instruction template having an associated screen identifier that matches the host screen identifier exists, wherein the alternate instruction template corresponds to a computer screen of a second host computer; and if the alternate instruction template exists, transmitting the alternate instruction template to the client computer.

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FOIA b 7 - D

37. A computer-readable storage medium storing code for controlling the transmission of information between a host computer and a remotely located client computer, wherein the, and the, the system comprising:

- a client computer which includes a browser application and is linked to a server computer by a network;

- a host computer which is linked to the server computer by a communications medium;

the server computer comprising:

- a display control receiving, at the server computer, data that is transmitted from the host computer, the data representative of a host computer display screen; and

- a host extension determining whether the data transmitted from the host computer includes at least one menu item field; if the data transmitted from the host computer includes at least one menu item field, creating at least one instruction that represents a hyperlink field corresponding to the menu item field; determining whether the data transmitted from the host computer includes at least one function key field; if the data transmitted from the host computer includes at least one function key-capable field, creating at least one instruction that represents a hyperlink field corresponding to the function key field; determining whether the data transmitted from the host computer includes at least one light pen-enabled field; if the data transmitted from the host computer includes at least one light pen-enabled field, creating at least one instruction that represents a hyperlink field corresponding to the light pen-enabled fields; determining whether the data transmitted from the host computer includes at least one function key-capable field; and if the data transmitted from the host computer includes at least one function key-capable field, creating at least one instruction that represents a button control corresponding to the function key-capable field.

38. A computer-readable storage medium storing code for controlling the transmission of information between a host computer and a remotely located client computer, the system comprising:

- a client computer which includes a browser application and is linked to a server computer by a network;

- a host computer which is linked to the server computer by a communication medium;

the server computer comprising:

- a display control receiving, at the server computer, data that is transmitted from the host computer, the data representative of a host computer display screen having multiple fields and a cursor positioned in a focus field; and

- a host extension automatically creating a set of instructions representing web page fields corresponding to the fields of the host screen; determining that one of the web page fields is a cursor field corresponding to the focus field of the host screen; automatically creating at least one cursor positioning instruction in the set of instructions, the cursor positioning instruction representing the information that a cursor is to be positioned within the cursor field; and transmitting the set of instructions to the client computer.

39. The storage medium of claim 18, wherein the communication medium linking the host computer to the server computer is an SNA network and the data received from the host computer comprises a data stream including an insert cursor token indicative of the focus field.

40. The storage medium of claim 19, wherein the set of instructions includes instructions in the Hypertext Markup Language.